

RECEIVER AND METHOD TO DETECT AND SYNCHRONIZE WITH A
SYMBOL BOUNDARY OF AN OFDM SYMBOL

Abstract of the Disclosure

An OFDM packet is initially detected by auto-correlating short training symbols to generate an initial packet detection signal. The initial packet detection signal may be used to initiate a coarse timing synchronization process, which may use a short symbol matched filter. A coarse timing signal may be generated from at least some of the short training symbols by correlating sampled short training symbols with short filter matched coefficients. The coarse-timing signal may be used to initiate the operation of a fine timing synchronization process, which may use a long symbol matched filter. A fine timing signal may be generated from at least some of the long training symbols by correlating sampled long training symbols with long filter-matched coefficients. The fine timing signal may be used to initiate channel estimation by performing a Fast Fourier Transform (FFT) operation on the long training symbols. The fine timing signal may also be used to initiate data signal processing using the channel estimation and may include starting an FFT operation on data symbols.

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